

WHAT IS CLAIMED IS:

- (1) A communication system comprising:  
a first radio network operating using  
a first communication protocol;  
a second radio network operating using  
a second communication protocol;  
a mobile network device having a  
single radio unit capable of participating in  
both the first and second radio networks;  
the mobile network device  
participating as a slave device to the first  
radio network pursuant to the first  
communication protocol while participating as a  
master device to the second radio network  
pursuant to the second communication protocol;  
and  
the mobile network device resolving  
conflicts between the first and second  
communication protocols.
- (2) A communication system comprising:  
a main radio network;  
a radio subnetwork;  
a mobile network device having a first  
radio transceiver for communicating with the  
main radio network and a second radio  
transceiver for communicating with the radio  
subnetwork;  
the mobile network device  
participating as a slave device to the main  
radio network while participating as a master  
device to the radio subnetwork.
- (3) A communication system comprising:  
a first radio network operating using  
a first communication protocol;  
a second radio network operating using

a second communication protocol;

a mobile network device having a single radio unit capable of participating in both the first and second radio networks;

5 the mobile network device participating as a slave device to the first radio network pursuant to the first communication protocol while participating as a master device to the second radio network pursuant to the second communication protocol; and

10 the mobile network device entering a state of low power consumption when not communicating with either the first or the second radio network.

(4) A communication system comprising:

a first radio network comprising a first plurality of network devices;

5 a second radio network comprising a second plurality of network devices;

a mobile network device configured to participate as a member of both the first and second pluralities of network devices;

10 when within range of one of the second plurality of network devices, the mobile network device participates as a master device in the second radio network; and

15 when within range of one of the first plurality of network devices, the mobile network device participates as a slave device in the first radio network.

20 the second plurality of network devices entering a state of low power consumption when communication with the mobile network device is not available.

(5) A communication system comprising:

a first radio network comprising a first plurality of network devices;

a second radio network comprising a second plurality of network devices;

5 a mobile network device configured to participate as a member of both the first and second pluralities of network devices;

10 when within range of one of the second plurality of network devices, the mobile network device participates as a master device in the second radio network; and

15 when within range of one of the first plurality of network devices, the mobile network device participates as a slave device in the first radio network.

(6) An RF local area network comprising:

a first network device, the first network device transmitting using battery power;

a second network device;

5 means within the second network device for identifying a range value indicative of the distance between the first and second network devices;

10 the second network device responsive to the identifying means by transmitting the range value to the first network device; and

15 the first network device, upon receipt of the range value, identifying an appropriate data rate for subsequent transmission to the second network device.

(7) An RF local area network comprising:

a first network device, the first network device transmitting using battery power;

a second network device;

5 means within the second network device for identifying a range value indicative of the

distance between the first and second network devices;

5           the second network device responsive to the identifying means by indicating to the first network device an appropriate rate for subsequent data transmission to the second network device.

(8) An RF local area network comprising:

          a first network device;

5           a battery power supply disposed for powering the first network device, the battery power supply having battery parameter information;

          a second network device;

10           means within the second network device for identifying a range value indicative of the distance between the first and second network devices;

          the second network device responsive to the identifying means by sending the range value to the first network device;

15           means within the first network device for identifying the battery parameter information; and

20           the first network device, based on the received range value and battery parameter information, identifying an appropriate data rate and power level for subsequent transmission to the second network device.

(9) An RF local area network comprising:

          a first network device;

5           a battery power supply disposed for powering the first network device, the battery power supply having battery parameter information;

          a second network device;

means within the second network device  
for identifying a range value indicative of the  
distance between the first and second network  
devices;

5           the first network device transmitting  
battery parameter information to the second  
network device; and

10           the second network device, based on  
the range value and received battery parameter  
information, indicating to the first network  
device an appropriate rate and power level for  
subsequent data transmission.